The Emotion Recognition Based On Facial Expression Play Music

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Abstract - *In this paper emotion recognition based on facial expression is generated by three steps: Image capture, face detection, feature extraction, distance measure between eye and mouth, find emotion, play music. Through the capture the face then six point are detect eye, lips, eyebrow. In this point measure the distance according to emotions play music. We have used in ANN(Artificial Neural Network) algorithm by using six point. In that facial particular point calculated those are gives for input to decision tree after that give procreation as a emotions. The difference between proposed system and existing system as using wavelet transform. The result is play music using facial expressions also using facial expression by download the songs.*

Key Words: Image capture, Face detection, Feature extraction, artificial neural network algorithm, genetic algorithm, and data mining.

1.INTRODUCTION

The goal of this paper analysis clarifies and proposed useful model of emotion recognition. In this image processing we apply the input like capture image video or frame and result is set of objects. Human can express their emotion different way generally six basics emotions are happiness, sadness, ear, anger, surprise, and disgust. Facial expression is the most natural and meaningful non verbal mode communicates human emotions. Recognition system follow the three steps:1)Capture image 2)Face detection 3)Feature extraction 4)Submitted to ANN algorithm they perform separately.

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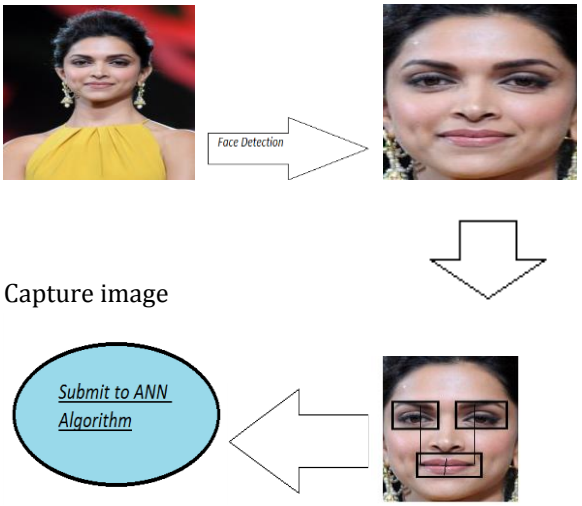

Fig 1.:Emotion recognition facial expression

Data mining is extracting information in the data call mining. Data mining is processing data to classify pattern and promote relationships. Large amount of data stored in data warehouse. Image processing is technique to translate image into digital from and execute some operation on that image.

2. METHODOLOGY

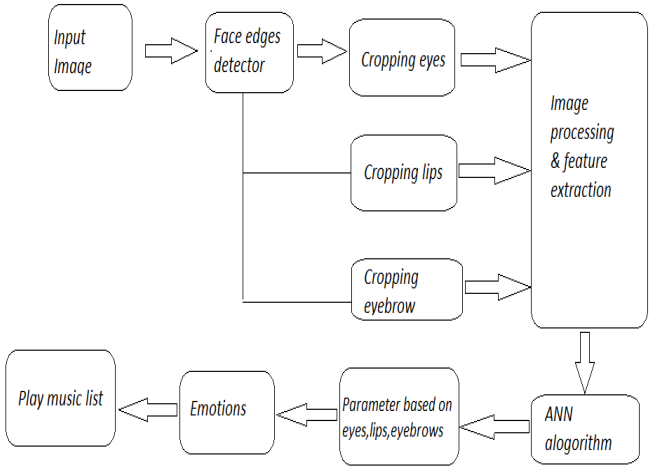

Fig -2: Emotion recognition process

A. Pre-processing:-

In Pre-processing taken the input image and these image apply filtering also translate image into gray scale and detect face from above image. Pre-processing in that cleaning the image.

B. Face edge detection:-

In face edge detection convert RGB image to binary image with help of binary image detect forehead and cropping image from starting point of forehead. Finally edge detector worked on the lips, eyes, eyebrows image.

C. Cropping eyes, mouth:-

For given fig(2) as shown the we cropped eyes, mouth then cut the RGB image conformity with size box. In the figure cropped eyes and mouth distance measure in h is height and w is width of image.

D. Feature extracting:-

In this image processing after the cropping eyes, mouth then give the feature can extract. After extracting calculate the distance with six point in vertical and horizontal projection according to x and y coordinate.

E. ANN algorithm:-

In this methodology main part is artificial neural network are non-liner network. They are works like human brain. Specifically the neural network called as training stage. The training stage is stage of done the adjustment of weight.

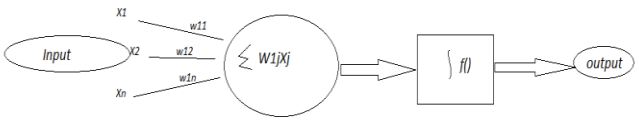

Fig -3 Working of ANN algorithm

F. Emotions:-

In this emotions are work after working the ANN algorithm, if they are completed then six emotions are work. When emotions are go through the find out the related songs list then one by one music are play using our music list. There are six emotions are happy, sad, surprise, angry, fear, disgust and there accuracy percentage of detection.

Emotions	%of detection
Happy	100%
Sad	98%
Surprise	100%
Fear	92%
Angry	98%
Disgust	91%

Table(I):-Accuracy Measurement

3. CONCLUSIONS

In this paper we studied about how to recognise Emotion and gave new group of parameter for distribution of Facial Expression depend on distance calculated between four parts on face: Eyebrow ,Nose, Eyes , Mouth. But the trouble of face rotation there static to live many problems in Image Processing. Such as discover of Landmark on face and contrast of color or Light of environment.
We can try to another way to improve the better recognition speed .Use Data Mining for statistical attend and Genetic algorithm. The genetic algorithm is the better solution than Data Mining algorithm.

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REFERENCES

[1].International Journal Of Innovative Research In Computer and Communication Engineering.(An ISO 3297:2007 Certified Organization) Vol.3,issue 2, February 2015.
[2]. Emotion Recognition based on Texture Analysis Of Facial Expression. 2015 International Conference on Image Information Process (ICIIP 2015)
[3].Image Processing Based On Emotions Recognition . 2010 International Conference on System Science and Engineering.

[4]. Facial Expression Recognition Using Decision Trees.2016 13th International Conference Computer Graphics, Imaging and Visualization.
[5].Emotion Detection From Frontal Facial Image Submitted by:Sakib Hussian ID:09101004